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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/646,767	11/30/2000	Eduard Gast	15268.1	7760

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EXAMINER
FELTON, AILEEN BAKER

ART UNIT	PAPER NUMBER
3641	

DATE MAILED: 08/13/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.	Applicant(s)
09/646,767	Gast et al
Examiner	**Art Unit**
Aileen Felton	3641

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on *Apr 25, 2003* .

2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1-23* is/are pending in the application.

4a) Of the above, claim(s) *7* is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) *1-6 and 8-23* is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) ☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) ☒ All b) ☐ Some* c) ☐ None of:

1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

a) ☐ The translation of the foreign language provisional application has been received.

15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____
4) ☐ Interview Summary (PTO-413) Paper No(s). _____
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-6 and 8-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsuda et al(6,149,745) in view of Yoshida et al(5,827,996) and Niles(3,929,530).

Matsuda et al discloses a gas generating composition for use in air bags that can comprise 5-60 % of nitroguanidine, 25-90 % of oxidizer, and 3-30 % of zirconium oxide(col. 3, lines 1-9). The oxidizer can comprise a mixture of strontium nitrate and iron oxide. The composition can also comprise a binder that is a sodium salt of carboxymethylcellulose. Example 11 shows the binder in the amount from 3-10 % (col. 4, line 4) and other examples show the use of 0 % binder. The use of platinum as a catalyst, the surface area of the titanium oxide, and the particular amounts of the oxidizers are not disclosed.

Yoshida et al teaches the use of metal oxide with a surface area of at least 40 m^2/g. The metal oxide can be titanium oxide.

Niles teaches a propellant composition that is cool-burning and develops large amounts of gaseous combustion products that uses platinum as a catalyst(col. 3, lines 20-25).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to vary the amounts of strontium nitrate and iron oxide within the range disclosed by Matsuda since Matsuda discloses that the oxidizers can be used as a mixture of two or more kinds(col. 2, lines 48-49). It would also have been obvious to vary the amount of the binder. It is well-settled that optimizing a result effective variable is well within the expected ability of a person of ordinary skill in the subject art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980), *In re Aller*, 220 F.2d 454, 105 USPQ 233 (CCPA 1955). It would have been obvious to use the titanium dioxide taught by Yoshida et al with the composition of Matsuda since Yoshida suggests that it will function to reduce the concentrations of CO and NO_x and this is the purpose of the titanium oxide fiber disclosed in Matsuda. It would also have been obvious to use the teaching of the platinum catalyst with the composition of Matsuda since Niles suggests that the platinum catalyst appears to stabilize the burn rate. Niles also suggests the use of the catalyst with a composition that is cool-burning and develops large amounts of gaseous combustion products which is precisely the manner in which air bag propellants operate.

Claim Rejections - 35 USC § 103

3. Claims 1-6 and 8-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamato(6,190,474) in view of Yoshida et al(5,827,996) and Niles(3,929,530).

Yamato discloses a gas generating composition for use in an air bag that comprises a mixture of oxidizers from about 20-80 %, a fuel such as nitroguanidine from 20-80 %, and a binder such as microcrystalline cellulose from 5 % or less. The oxidizer mixture can comprise strontium nitrate and iron oxide. The use of platinum as a catalyst, the use of titanium oxide, and the particular amounts of the oxidizers are not disclosed.

Yoshida et al teaches the use of metal oxide with a surface area of at least 40 m^2/g. The metal oxide can be titanium oxide.

Niles teaches a propellant composition that is cool-burning and develops large amounts of gaseous combustion products that uses platinum as a catalyst(col. 3, lines 20-25).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to vary the amounts of strontium nitrate and iron oxide within the range disclosed by Yamato since Yamato discloses that the oxidizers can be used as a mixture of two or more kinds(col. 2, lines 48-49). It would also have been obvious to vary the amount of the binder. It is well-settled that optimizing a result effective variable is well within the expected ability of a person of ordinary skill in the subject art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980), *In re Aller*, 220 F.2d 454, 105 USPQ 233 (CCPA 1955). It would have been obvious to use the titanium dioxide taught by Yoshida et al with the composition of Yamato since Yoshida suggests that it will function to reduce the concentrations of CO and NO_x. Since combustion of the similar composition of Yamato will result in slag formation it would be a benefit to use the titanium oxide teaching to reduce the formation of harmful CO and NO_x. It

would also have been obvious to use the teaching of the platinum catalyst with the composition of Yamato since Niles suggests that the platinum catalyst appears to stabilize the burn rate. Niles also suggests the use of the catalyst with a composition that is cool-burning and develops large amounts of gaseous combustion products which is precisely the manner in which air bag propellants operate.

Response to Arguments

4. Applicant's arguments filed have been fully considered but they are not persuasive. It is unclear why Applicant argues that the titanium oxide of the instant invention is porous when the specification discloses that the oxides have no pores. (see pg. 9, 2nd full para.). Applicant's arguments regarding the Niles reference are also unpersuasive. The Niles reference teaches the use of a catalyst with a composition that produces large amounts of gas. Since the goal of air bag compositions is to produce large amounts of gas, it seems clear that one could apply the teachings of Niles with air bag compositions. Applicants arguments regarding the surface area are moot based on the new grounds of rejection which teaches the use of high surface area oxides.

Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aileen Felton whose telephone number is (703) 306-5751. The examiner can normally be reached on Monday through Friday from 6:30 am to 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Carone, can be reached on (703) 306-4198. The fax phone number for the organization where this application or proceeding is assigned is (703) 305-7687.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1113.

Aileen B. Felton

Aileen B. Felton